

Ferricerite-(La)

Crystal Data: Hexagonal. *Point Group:* 3*m*. Forms boxwork-like aggregates of equant to tabular crystals flattened on [00*1] to 2 mm with dominant rhombohedral and pinacoidal faces, as pseudomorphs after an unidentified hexagonal prismatic mineral.

Physical Properties: *Cleavage:* None. *Tenacity:* Brittle. *Fracture:* Conchoidal. Hardness = 5
D(meas.) = 4.7(1) D(calc.) = 4.74

Optical Properties: Translucent. *Color:* Light yellow to pinkish brown. *Streak:* White.

Luster: Vitreous.

Optical Class: Uniaxial (+). $\omega = 1.810(5)$ $\varepsilon = 1.820(5)$

Cell Data: *Space Group:* R3*c*. $a = 10.7493(6)$ $c = 38.318(3)$ $Z = 6$

X-ray Powder Pattern: Mt. Yuksporr, Khibina massif, Kola Peninsula, Russia.
2.958 (100), 3.47 (40), 3.31(38), 2.833 (37), 2.689 (34), 1.949 (34), 3.53 (26)

Chemistry:	(1)		(2)
La ₂ O ₃	37.57	CaO	5.09
Ce ₂ O ₃	23.67	Fe ₂ O ₃	1.40
Pr ₂ O ₃	0.61	MgO	0.51
Nd ₂ O ₃	1.48	SiO ₂	22.38
Sm ₂ O ₃	0.10	P ₂ O ₅	0.63
Gd ₂ O ₃	0.24	<u>H₂O</u>	<u>3.20</u>
SrO	1.97	Total	98.85

(1) Mt. Yuksporr, Khibina massif, Kola Peninsula, Russia; average electron microprobe analysis supplemented by IR spectroscopy, H₂O by Penfield method; corresponds to (La_{4.23}Ce_{2.65}Ca_{1.37}Sr_{0.35}Nd_{0.16}Pr_{0.07}Gd_{0.02}Sm_{0.01}) $\Sigma=8.86$ (Fe_{0.32}Ca_{0.30}Mg_{0.23}) $\Sigma=0.85$ [SiO₄]₃[(Si_{0.84}P_{0.16}) $\Sigma=1.00$ O₃(OH)]₄(OH)_{2.78}.

Mineral Group: Cerite supergroup, cerite group.

Occurrence: A late-stage, low-temperature secondary phase in a symmetrically zoned, aegirine-natrolite-microcline vein in gneissose foyaites.

Association: Aegirine, anatase, ancylite-(Ce), barylite, catapleiite, cerite-(Ce), chabazite-Ca, edingtonite, fluorapatite, galena, ilmenite, microcline, natrolite, sphalerite, strontianite, vanadinite.

Distribution: From Mt. Yuksporr, Khibina massif, Kola Peninsula, Russia.

Name: The prefix, *ferr*, indicates dominant Fe³⁺ in the *M* site of a member of the *cerite* group and a suffix for the dominant rare earth element. Formerly cerite-(La).

Type Material: Mining Museum, St. Petersburg Mining Institute (Technical University), St. Petersburg; at the Mineralogical museum, St. Petersburg State University; and the Geological and Mineralogical Museum, Geological Institute, Kola Science Center, Apatity, Russia.

References: (1) Pakhomovsky, Ya.A., Yu.P. Men'shikov, V.N. Yakovenchuk, G.Yu. Ivanyuk, S.V. Krivovichev, and P.C. Burns (2002) Cerite-(La), (La,Ce,Ca)₉(Fe,Ca,Mg)(SiO₄)₃[SiO₃(OH)]₄(OH)₃, a new mineral species from the Khibina alkaline massif: occurrence and crystal structure. *Can. Mineral.*, 40, 1177-1184. (2) (2003) *Amer. Mineral.*, 88, 1175-1176 (abs. ref. 1). (3) Atencio, D. and A. de Almeida Azzi (2020) Cerite: a new supergroup of minerals and cerite-(La) renamed ferricerite-(La). *Mineral. Mag.*, 84(6), 928-931.